<center>REMARKS</center>

The present application was filed on April 6, 2000, and claims priority to U.S. Provisional Patent Application Serial No. 60/158,777, filed on October 12, 1999. All of originally-filed claims 1-91 remain pending. Claims 1, 44, 90 and 91 are the pending independent claims.

Claims 1-91 are rejected under 35 U.S.C. §102(a) as being anticipated by Abrams et al., "UML: An Application-Independent XML User Interface Language" (hereinafter "Abrams").

Claims 1-12, 29, 36-56, 73, 80-87, 90 and 91 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,418,439 (hereinafter "Papierniak").

Claims 5 and 49 are rejected under 35 U.S.C. §103(a) as being unpatentable over Papierniak in view of "New VXML Forum," posted at Cover Pages Hosted by Oasis (hereinafter "VXML").

Claims 13-28, 34, 57-72 and 78 are rejected under 35 U.S.C. §103(a) as being unpatentable over Papierniak in view of U.S. Patent No. 6,269,336 (hereinafter "Ladd").

Claims 31, 32, 75 and 76 are rejected under 35 U.S.C. §103(a) as being unpatentable over Papierniak in view of U.S. Patent No. 6,569,207 (hereinafter "Sundaresan").

Claims 30 and 74 are rejected under 35 U.S.C. §103(a) as being patentable over Papierniak in view of World Wide Web Consortium document entitled "Extensible Stylesheet Language (XSL) version 1.0" (hereinafter "XSL").

Claims 33, 77, and 88 are rejected under 35 U.S.C. §103(a) as being unpatentable over Papierniak in view of U.S. Patent No. 6,493,758 (hereinafter "McLain").

Claims 35, 79, and 89 are rejected under 35 U.S.C. §103(a) as being unpatentable over Papierniak in view of U.S. Patent No. 6,456,974 (hereinafter "Baker").

Regarding the §102 rejections of claim 1, Applicants initially note that the Federal Circuit has recently reiterated that "unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. §102." *Net MoneyIN Inc. v. VeriSign Inc.*, 545 F.3d 1359, 1369, 88 USPQ2d 1751, 1760 (Fed. Cir. 2008)

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The present invention, for example, as recited in independent claim 1, recites a method of generating an application accessible by a user through one or more computer-based devices, comprising the following steps. Interactions that the user is permitted to have with the one or more computer-based devices used to access the application are represented by interaction-based programming components. The interaction-based programming components are <u>independent of content/application logic and presentation requirements</u> associated with the application. Further, the interaction-based programming components may be transcoded on a component by component basis to <u>generate one or more modality-specific renderings of the application renderable in accordance with one or more modality-specific browsers associated with the one or more computer-based devices, such that the interaction-based programming components are independent of any modality and any modality-specific browser</u>. The application is then authored using at least a portion of the interaction-based programming components.

Thus, illustrative embodiments of claim 1 introduce a new paradigm, referred to herein as a Conversational Markup Language (CML), which provides for separating application programming into content aspects, presentation aspects and interaction aspects. By focusing on the interaction aspect of an application with respect to a user, an application may be written in a manner which is independent of the content/application logic and presentation. The "interaction-based programming components" recited in independent claim 1 provide such advantages since, as expressly recited, they are <u>independent of content/application logic and presentation requirements</u> associated with the application and they may be transcoded on a component by component basis to <u>generate one or more modality-specific renderings of the application renderable in accordance with one or more modality-specific browsers associated with the one or more computer-based devices, such that the interaction-based programming components are independent of any modality and any modality-specific browser</u>. Examples of such presentation requirements and modality-specific renderings include visual-based (e.g., text and graphical) renderings, speech based renderings, and combinations thereof.

Regarding the §102(a) rejection of claim 1 over Abrams, Applicants respectfully submit that Abrams fails to teach or even suggest the limitation of claim 1 wherein interaction-based programming components are independent of content/application logic and presentation requirements associated with the application. In formulating the present rejection of claim 1

over Abrams, the Examiner relies primarily on page 1699, right column, first through third paragraphs, which describe an arrangement in which an application program is "divided into two parts: (1) the user interface, and (2) the code behind the interface that implements the internal logic of the program and interacts with external entities."

However, Abrams fails to teach or suggest interaction-based programming components that are <u>independent of presentation requirements</u> associated with the application, as well as content/application logic. Indeed, Abrams instead teaches an arrangement in which a user interface markup language (UIML) describes a user interface with a <style> section, which "contains the style sheet information and data that are application dependent. . . . Various style attributes (e.g., color, font size) for specific appliances are created." See, e.g., Abrams at page 1702, right column, last paragraph, to page 1703, left column, first paragraph. Accordingly, Abrams fails to disclose each limitation of claim 1, and hence fails to anticipate claim 1.

As heretofore noted, claims 44, 90 and 91 include limitations similar to those recited in claim 1. Accordingly, claims 44, 90 and 91 are believed to be patentable over Abrams.

With regard to the §102(a) rejection of dependent claims 2-43 and 45-89 over Abrams, Applicants respectfully note that the Examiner has failed to indicate the specific portions of Abrams which Examiner believes disclose each limitation of the dependent claims. Rather, the Examiner merely states "[a]s to the rest of the claims, the mapping in the rejection of claim 90 is enough to provide an understanding to one of ordinary skill on how the reference is being interpreted to teach the rest of the applicant's broad claim limitations."

Applicants respectfully submit that 37 CFR 1.104(c)(2) explicitly provides, with emphasis added, that when "a reference is complex or shows or describes inventions other than that claimed by the applicant, <u>the particular part relied on must be designated as nearly as practicable</u>. The pertinence of each reference, if not apparent, must be clearly explained and <u>each rejected claim specified</u>."

Applicants respectfully submit that the Examiner's present rejection of the dependent claims as anticipated by Abrams fails to comply with this directive, and that the Examiner's further statement that "[i]f the applicant has any questions about the interpretation, the applicant may contact the Examiner at the number listed at the conclusion of this office action," fails to remedy this fundamental deficiency. See, e.g., 37 CFR 1.104(b) ("The examiner's action will be

complete as to all matters."); and 37 CFR 1.2 ("All business with the Patent and Trademark Office should be transacted in writing.")

Moreover, the rejection of the dependent claims as anticipated by Abrams is not only procedurally deficient, but substantively incorrect as well. For example, dependent claim 5 includes a limitation wherein a speech-based representation is based on VoiceXML. Abrams not only fails to disclose the claimed use of VoiceXML, but in fact teaches away by suggesting the use of VoxML. See Abrams at page 1695, right column, line 2; see also Abrams at Table 1, rightmost column, and endnote 8. VoxML and VoiceML are distinct languages, as discussed in VXML at page 2, fifth paragraph ("The initial VXML specification will be based on AT&T's and Lucent Technologies' phone markup languages and Motorola's VoxML language, which have common roots but have been developed independently in the three companies.") Because Abrams fails to disclose within the four corners of the document all of the limitations rec ited in claim 5, much less all of the limitations arranged or combined in the same way as recited in claim 5, Abrams fails to anticipate claim 5.

Accordingly, the conclusory rejection of each of claims 1-97 as anticipated by Abrams is both procedurally deficient and substantively incorrect. Accordingly, in the event that the Examiner does not view the application as being in condition for allowance responsive to the present response, but rather chooses to rely on Abrams in maintaining rejections of any of the dependent claims, Applicants respectfully submit that any subsequent Office Action should indicate the portion(s) of Abrams relied upon in rejecting each claim, as well as the manner in which Abrams is believed to teach or suggest each limitation recited therein. Moreover, such an Office Action should be indicated as having a non-final status so that Applicant can be provided with a fair and reasonable opportunity to consider such rejections.

Regarding the §102(e) rejection of claim 1 over Papierniak, Papierniak is significantly different than the claimed invention. Papierniak discloses at column 9, lines 25-53:

FIG. 6 depicts a flow chart for the translation of information into multiple media variations with different views for a distributed on-line, and interactive environment in accordance with a second embodiment of the invention. In FIG. 6, the Web Synchronizer receives View A which is text in Step S30. View A can be received, for example, as text, and either stored as text and translated when requested, or translated immediately into ed. In Step S32, each kind of user is assigned a user type, e.g., User 1, User 2, User 3, User 4. In Step S34, the presentation is set in the Web

Synchronizer/Translator. Each user is prompted for or assigned a view, e.g., Video--User 1, Audio--User 2 Graphics--User 3, Text--User 4, or a combination of these views.

A Person logs-on and is assigned or selects a user type, e.g., User 1, in Step S36, and a user, for example, User 1 requests View A in Step S38. View A is converted to, for example, video and User 1 receives the video presentation of View A in Step S40. In Step S42, a second person that may log-on the Web server is assigned or selects a user type, e.g., User 2. User 2 requests View A in Step S44, and the Web synchronizer/translator converts or retrieves View A to Audio which is then received by User 2 as an Audio Presentation of View A in Step S46. The process then continues on with other user request in Step S48, and control is returned to Step S36. Note that the translation/conversion among multiple media variations can occur either on-line or off-line, at either the information source(s) or web synchronizer/translator.

Thus, while Papierniak describes different "views" as being assigned to different users, these "views" correspond to modality-specific data, i.e., audio, graphic, and text. Such data is provided by modality-specific information sources. That is, column 8, lines 53-55, of Papierniak explains that "[t]he components of these information sources can be text-based, audio-based, video-based, image-based, graphic-based, and, in general, multimedia-based." Thus, unlike the claimed invention, no where does Papierniak disclose that "interaction-based programming components <u>are independent of any modality and any modality-specific browser</u>.

Even in the embodiment of FIG. 7 of Papierniak, where it appears that text data is processed by a "web presence synchronizer," the initial information from the sources is still in the modality-specific form of text. That is, while Papierniak discloses a technique for translation of information into multiple media variations, the information before the translation is still in a modality-specific (text) form, and is merely translated to another modality-specific format (audio, graphic, etc.). Thus, it cannot be concluded that the data or any programming components described in Papierniak are independent of any modality, as in the claimed invention.

As heretofore noted, claims 44, 90 and 91 include limitations similar to those recited in claim 1. Accordingly, claims 44, 90 and 91 are believed to be patentable over Papierniak.

Applicants also respectfully traverse the §102(e) rejection of dependent claims 2-12, 29, 36-43, 45-56, 73 and 80-87 over Papierniak not only because they respectively depend from independent claims 1 and 44, but also because said claims recite patentable subject matter over Papierniak in their own right.

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By way of example only, claims 8 and 52 recite wherein the user interactions are declaratively represented by the interaction-based programming components. Claims 9 and 53 recite wherein the user interactions are imperatively represented by the interaction-based programming components. Claims 10 and 54 recite wherein the user interactions are declaratively and imperatively represented by the interaction-based programming components. Claims 11 and 55 recite wherein the interaction-based programming components comprise basic elements associated with a dialog that may occur between the user and the one or more computer-based devices. Claims 12 and 56 recite wherein the interaction-based programming components comprise complex elements, the complex elements being aggregations of two or more of the basic elements associated with the dialog that may occur between the user and the one or more computer-based devices. The Office Action repeatedly cites column 9, lines 25-53, of Papierniak (copied in its entirety and addressed above) in rejecting the claims. However, nowhere can Applicants find any such features disclosed therein.

Similarly, claims 80 through 87 are respectively rejected in the Office Action by citation to column 9, lines 25-53, of Papierniak. However, nowhere does Papierniak therein disclose the claimed features.

As another example, dependent claims 5 and 49 are indicated as rejected both under §102(e) over Papierniak (see the present Office Action at page 2, last paragraph, and page 5, last paragraph), and under §102(e) over Papierniak in view of XSL (see the present Office Action at page 7, third through seventh paragraphs). Moreover, in formulating the §102(e) rejection of claims 5 and 49, the Examiner fails indicate the portion(s) of Papierniak which are believed to disclose the limitations recited in these claims wherein the speech-based representation is based on VoiceXML.

Applicants accordingly submit that the §102(e) rejection of claims 5 and 49 is procedurally invalid for reasons similar to those discussed above with reference to the §102(b) rejection of the dependent claims over Abrams. Furthermore, the §102(e) rejection of claims 5 and 49 is believed to be substantively incorrect as well as procedurally invalid. As the Examiner admits in the present Office Action at page 7, fourth paragraph, "Papierniak does not specifically teach the use of VoiceXML." Accordingly, Papierniak fails to anticipate claims 5 and 49.

With regard to the §103 rejections of dependent claims 5, 13-28, 30-35, 49, 57-72, 74-79, 88 and 89, Applicants respectfully submit that the other references cited by the Examiner fail to remedy the above-noted fundamental deficiency of Papierniak with regard to the independent claims. Accordingly, these claims are believed to be patentable at least by virtue of their respective dependencies from independent claims 1 and 44. Moreover, these claims are believed to define additional separately patentable subject matter over the cited references.

For example, in formulating the present §103(a) rejections of dependent claims 5 and 49, on page 7, fourth and fifth paragraphs, of the present Office Action, the Examiner contends that "Papierniak does not specifically teach the use of VoiceXML. The article entitled 'New VXML Forum' teaches the use of VoiceXML."

Applicants respectfully note that the relied-upon article in fact teaches away by indicating that VoiceXML had not yet been developed at the time of the invention. See, for example, VXML at page 2, fifth paragraph ("The initial VXML specification will be based on AT&T's and Lucent Technologies' phone markup languages and Motorola's VoxML language, which have common roots but have been developed independently in the three companies.") See also VXML at page 1, last paragraph ("Just as standardization of HTML (Hypertext Markup Language) drove the adoption of traditional Web applications, standardization of VXML will drive the adoption of voice-enabled applications.")

Although VXML is dated March 2, 1999, and states at page 1, second paragraph, that the "initial specification will be available for public comment and contribution next month, with the goal of submitting a final proposed specification for standardization to the World Wide Web Consortium (W3C) later this year," the initial VoiceXML specification was not in fact released to the public by the VXML Forum until March 7, 2000, which is after the October 12, 1999, priority date of the present application. This may be confirmed by following the direction provided in VXML at page 2, sixth paragraph ("For additional information on the progress of the VXML specification, go to the VXML Forum web site at: http://www.vxmlfoum.org.")

Applicants respectfully submit that, in view of VXML's teachings that VoiceXML had not yet been specified and standardized at the time of the invention, one having skill in the art would not have had a reasonable expectation of success in basing a speech-based representation on VoiceXML. See MPEP 2143.02.

Moreover, even if VXML could be characterized as teaching the use of VoiceXML, as alleged by the Examiner, a "patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR International Co. v. Teleflex Inc,*, 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (U.S. 2007). Rather, the Examiner must provide an explicit "reason to combine the known elements in the fashion claimed by the patent at issue." *Id.*

The Examiner argues that it "would have been obvious for one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Papierniak regarding a speech application system with VoiceXML because VoiceXML is a form of SGML document."

Applicants respectfully submit that the Examiner's assertion that "VoiceXML is a form of SGML document" is not a "reason to combine the known elements in the fashion claimed by the patent at issue," but rather is a conclusory statement of the type deemed insufficient by the Federal Circuit and the Supreme Court. See *KSR*, 127 S.Ct. at 1741, 82 USPQ2d at 1396, quoting *In re Kahn*, 441 F. 3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.").

Moreover, in formulating the present §103(a) rejections of dependent claims 31, 32, 75 and 76, the Examiner relies on Sundaresan. Applicants note that Sundaresan was not published until its issuance on May 27, 2003, which is subsequent to the present application's filing date of April 6, 2000. Sundaresan thus qualifies as prior art against the prior application only under §102(e). Sundaresan and the present application were commonly owned by International Business Machines Corporation ("IBM") at the time the present invention was made.

Specifically, at the time the present invention was made, Sundaresan was assigned to IBM, as evidenced by the assignment recorded by the USPTO on October 5, 1998 at reel 009502, frame 0971. Moreover, at the time the present invention was made, the present application was subject to an obligation of assignment to IBM and was later assigned to IBM pursuant to the assignment recorded by the USPTO on June 16, 2000 at reel 010854, frame 0377.

Applicants accordingly contend that Sundaresan is disqualified as prior art against the present application pursuant to §103(c), thereby overcoming the present §103(a) rejection of claims 31, 32, 75 and 76.

In view of the above, Applicants believe that claims 1-91 are in condition for allowance, and respectfully request favorable reconsideration. However, in the event the present application is not considered to be in condition for allowance responsive to the remarks made herein, Applicants respectfully submit a new Office Action be issued and indicated as having a <u>non-final</u> status in accordance with MPEP 706.02(l)(3) ("If a statement of common ownership or assignment is filed in reply to the 35 U.S.C. 103 rejection based on prior art under 35 U.S.C. 102(e) and the claims are not amended, the examiner may not make the next Office action final if a new rejection is made.")

Respectfully submitted,

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David E. Shifren
Attorney for Applicant(s)
Reg. No. 59,329
Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560
(516) 759-2641